

AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning at page 3, line 2, with the following rewritten paragraph:

1 In accordance with the present invention, a method and system for
2 providing context save and restore using a test scan chain multi-channel
3 ~~functionality with a telecommunication device comprising a single channel~~ are
4 provided that substantially eliminate or reduce disadvantages and problems
5 associated with previously developed systems and methods. In particular, the
6 present invention provides a scan chain of digital logic components that are
7 divided into a plurality of sub-chains that are linked in parallel and to a hardware
8 resource for executing an application, and are linked to a device memory for
9 storing data for each of a plurality of applications such that the applications may
10 be executed one after another in a repeating cycle. Thus, each application has
11 exclusive use of the channel while being executed. The device is operable to be
12 placed in a test mode for testing, a functional mode for executing applications,
13 and a switch mode for switching between applications. Each digital logic
14 component is operable to receive test data over a test line and a test clock signal
15 while the device is in the test mode, to receive functional data over a functional
16 line and a functional clock signal while the device is in the functional mode, and
17 to receive functional data over the functional line and the functional clock signal
18 while the device is in the switch mode. In this way, an existing test scan chain
19 may be adapted to provide a hardware efficient context save and restore
20 function.

Please replace the paragraph beginning at page 3, line 13, with the following rewritten paragraph:

1 In one embodiment of the present invention, a method for providing
2 context save and restore using a test scan chain multi-channel functionality with

3 a telecommunication device comprising a single channel is provided. The
4 method includes dividing a scan chain of digital logic components into a plurality
5 of sub-chains. A first data set is provided in the sub-chains. The sub-chains are
6 linked in parallel and to a hardware resource for executing an application. The
7 sub-chains are also linked to a device memory. A first application is executed to
8 update the first data set in the sub-chains. The first application is operable to
9 use the channel. The updated first data set is stored in the device memory. A
10 second data set is restored from the device memory to the sub-chains. A
11 second application is executed to update the second data set in the sub-chains.
12 The second application is operable to use the hardware resource channel.

Please replace the paragraph beginning at page 3, line 28, with the following rewritten paragraph:

1 In another embodiment of the present invention, a processing
2 ~~telecommunication~~ device comprising a single channel is provided that includes
3 a scan chain, a device memory and a state machine. The scan chain comprises
4 a plurality of digital logic components. The device memory is operable to store a
5 data set for each of a plurality of applications. The state machine is operable to
6 divide the scan chain into a plurality of sub-chains, to provide a first data set in
7 the sub-chains, to link the sub-chains in parallel and to a hardware resource for
8 executing an application, to link the sub-chains to the device memory, to execute
9 a first application to update the first data set in the sub-chains, to shift the
10 updated first data set into the device memory for storage, to shift a second data
11 set from the device memory into the sub-chains, and to execute a second
12 application to update the second data set in the sub-chains. The first application
13 is operable to use the channel, and the second application is operable to use the
14 hardware resource channel.

Please replace the paragraph beginning at page 4, line 16, with the following rewritten paragraph:

1 Technical advantages of the present invention include providing an
2 improved system for providing context save and restore using a test scan chain
3 ~~multi-channel functionality with a telecommunication device comprising a single~~
4 ~~channel~~. In a particular embodiment, a state machine stores data for each of a
5 plurality of applications in a device memory. The applications are executed one
6 at a time in a hardware resource to which the test scan chain is linked. After
7 each application is executed, the data for that application is stored in the
8 memory and data for another application is restored from the memory. As a
9 result, the applications may be executed in a repeating cycle with each
10 application having exclusive use of the hardware resource channel during
11 execution. Accordingly, ~~multi-channel functionality is provided with a single~~
12 ~~channel~~.